

CLAIM AMENDMENTS

Claim 1 (currently amended): A device for ablating a tissue in an individual comprising:

an abrasive member adapted to contact an abrasive material delivered onto a tissue via a container operably connected to said device or adapted to contact a tissue with an abrasive material attached to said abrasive member during ablation;

a means to drive said abrasive member at a high frequency,

said abrasive material; and

means to collect a tissue or biochemical sample during ablation,

wherein said means is operably connected to said device; and

means to deliver a pharmaceutical to a tissue during ablation thereof, wherein said pharmaceutical is in a separate container operably connected to said device.

Claim 2 (original): The device of claim 1, further comprising a housing means.

Claim 3 (canceled).

Claim 4 (original): The device of claim 1, wherein said tissue is membranous or non-membranous.

Claim 5 (original): The device of claim 4, wherein said membranous tissue is the stratum corneum.

Claim 6 (original): The device of claim 5, wherein said non-membranous tissue is bone.

Claim 7 (canceled).

Claim 8 (currently amended): The device of claim 1, wherein said driving means is a piezoelectric actuator, a solenoid, a pressurized gas[[.]] an ~~explosive discharge, or a voice-coil[[.]] an electro- or magneto-rheologic material, or a shape memory alloy or polymer.~~

Claims 9-12 (canceled).

Claim 13 (previously presented): The device of claim 1, further comprising a means to apply a driving force to said pharmaceutical operably connected to said device; wherein said driving force is applied via electrophoresis, mechanical pressure, osmotic pressure, hydrostatic pressure or a diffusion gradient.

Claim 14 (original): The device of claim 1, wherein said abrasive material is biologically inert particles.

Claim 15 (original): The device of claim 14, wherein said abrasive has a particle size of about 30 microns to about 120 microns.

Claim 16 (original): The device of claim 15, wherein said abrasive has a particle size of about 50 microns to about 90 microns.

Claim 17 (original): The device of claim 14, wherein said abrasive is diamond, aluminum oxide, carborundum, or ice.

Claim 18 (original): The device of claim 1, wherein said abrasive further comprises a lubricant.

Claim 19 (original): The device of claim 18, wherein said lubricant is water, a hydrogel, a lipid, aqueous carbohydrate, petrolatum, or glycerol or a combination thereof.

Claim 20 (canceled)

Claim 21 (previously presented): The device of claim 1, wherein said pharmaceutical is an anesthetic, nitroglycerin, an anti-nauseant, an antibiotic, a hormone, a steroidal antiinflammatory agent, a non-steroid antiinflammatory agent, a chemotherapeutic agent, an anti-cancer agent, an immunogen, an anti-viral agent or an anti-fungal agent, or a diagnostic material.

Claim 22 (original): The device of claim 21, wherein said antibiotic is tetracycline, streptomycin, sulfa drugs, kanamycin, neomycin, penicillin, or chloramphenicol.

Claim 23 (original): The device of claim 21, wherein said hormone is parathyroid hormone, growth hormone, gonadotropins, insulin, ACTH, somatostatin, prolactin, placental lactogen, melanocyte stimulating hormone, thyrotropin, parathyroid hormone, calcitonin, enkephalin, or angiotensin.

Claim 24 (original): The device of claim 21, wherein said anesthetic is lidocaine, bupivocaine, tetracaine, morphine, or fentanyl.

Claim 25 (original): The device of claim 21, wherein said immunogen is a vaccine.

Claim 26 (previously presented): The device of claim 1, wherein said abrasive is a crystallized pharmaceutical or a powdered pharmaceutical.

Claim 27 (canceled).

Claim 28 (previously presented): The device of claim 26, wherein said crystals are frozen.

Claim 29 (previously presented): The device of claim 1, wherein said means to deliver a pharmaceutical is a reservoir adapted to contain said pharmaceutical with a permeable membrane through which said pharmaceutical is controllably released.

Claim 30 (canceled)

Claim 31 (currently amended): The device of claim ~~[[30]]~~ 1, wherein said means to collect a tissue or biochemical sample ~~collection means~~ is a container or an absorptive medium.

Claim 32 (original): The device of claim 31, wherein said absorptive medium is activated carbon, a dehydrated hydrogel or cotton.

Claim 33 (canceled).

Claim 34 (previously presented): The device of claim 1, further comprising a control means to monitor feedback about a change in an electrical property of said tissue during ablation thereof, said control means comprising:

at least one first active electrode in electrical contact at a site of interest on said tissue;

a second return electrode in electrical contact distal to said first electrode at the site of interest;

an optional electrically conductive fluid interface between said first and second electrodes and the site of interest on said tissue; and

a controller to monitor an electrical current between said first electrode and said second electrode, said controller further comprising a microprocessor.

Claim 35 (original): The device of claim 34, wherein said first electrode(s) and said second electrode and an electrolyte in body fluid in said tissue comprise a galvanic cell.

Claim 36 (original): The device of claim 34, wherein said property is electrical impedance, electrical conductance, hydration, pH, or an endogenous electrical signal.

Claim 37 (original): The device of claim 36, wherein said endogenous electrical signal is generated by a heartbeat or by brain activity of the individual.

Claims 38-42 (canceled)

Claim 43 (previously presented): The device of claim 1, further comprising a control means to monitor feedback about a change in an optical property of said tissue during ablation thereof, said control means comprising:

at least one source of radiant energy directed at a site of interest on said tissue;

a light detector having optics with which to image said tissue thereon; and

a controller to monitor the radiant energy source and the light detector and to analyze data received from the light detector, said controller further comprising a microprocessor.

Claim 44 (original): The device of claim 43, wherein said optical property is fluorescence or reflectance.

Claims 45-49 (canceled)

Claim 50 (previously presented): The device of claim 1, further comprising a control means to monitor feedback about a change in a thermal property of said tissue during ablation thereof, said control means comprising:

at least one source of infrared energy directed at a site of interest on said tissue;

an infrared detector having optics with which to measure infrared emission from said tissue thereon; and

a controller to monitor the infrared energy source and the infrared detector and to analyze data received from the light detector, said controller further comprising a microprocessor.

Claim 51 (original): The device of claim 50, wherein said thermal property is thermal diffusivity and thermal conductivity.

Claim 52-60 (canceled).

Claim 61 (previously presented): The device of claim 19, wherein said lubricant is glycerol and water.

Claim 62 (previously presented): The device of claim 19, wherein said lubricant is electrically conductive.

Claims 63-69 (canceled).